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NEW YORK, SATURDAY, MAY 3, 1924

Subscription $3 per year
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Do You Remember

The Imported "Lavino Precipitated Oxide"—

The Outstanding Gas Purifying Medium of 1912-1914?

— the oxide that removed the last trace of H_2S
— the oxide of unsurpassed activity
— the oxide of quick revivification
— the oxide requiring the fewest changes
— the oxide that outlasted all others
— the oxide that reduced the cost of purification

We have re-entered the field with the same old material, which for the sake of brevity, we are calling

LAVINO OXIDE

and are prepared to serve your requirements of either the Oxide or Sponge

Inquiries Solicited

E. J. LAVINO and COMPANY

BULLITT BUILDING PHILADELPHIA, PA.

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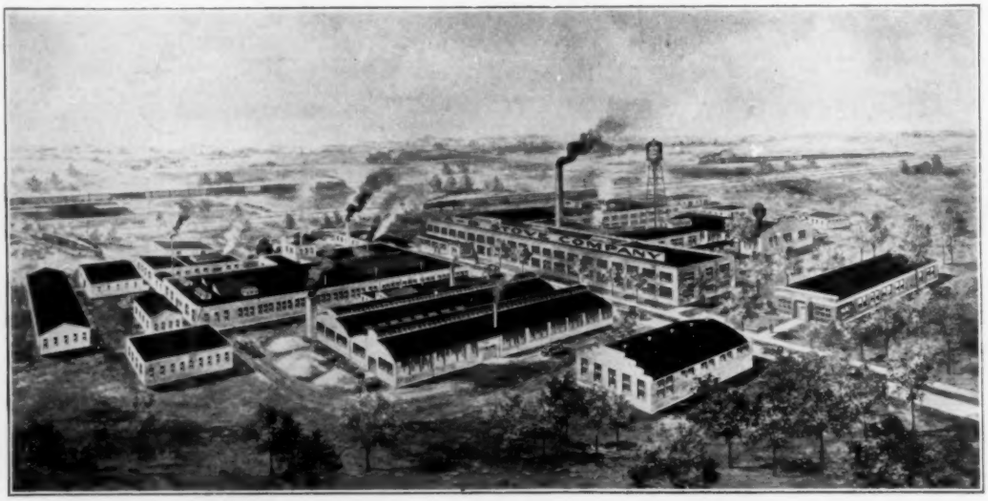


Enlarged Facilities to Serve Enlarged Demands

Phenomenal, yet substantial, progress is manifest in every stride made in the development of A-B Gas Ranges which, today, are serving the cooking needs of nearly a million homes.

This extraordinary volume of demand has been attained through the designing and building of ranges of distinctive beauty and evident superiority, backed by an aggressive and consistent merchandising policy.

An ever-increasing host of buyers refuse to be satisfied with anything less than a gas range bearing the honored A-B emblem, and newer and greater facilities have been made necessary to serve this overwhelming popular preference.

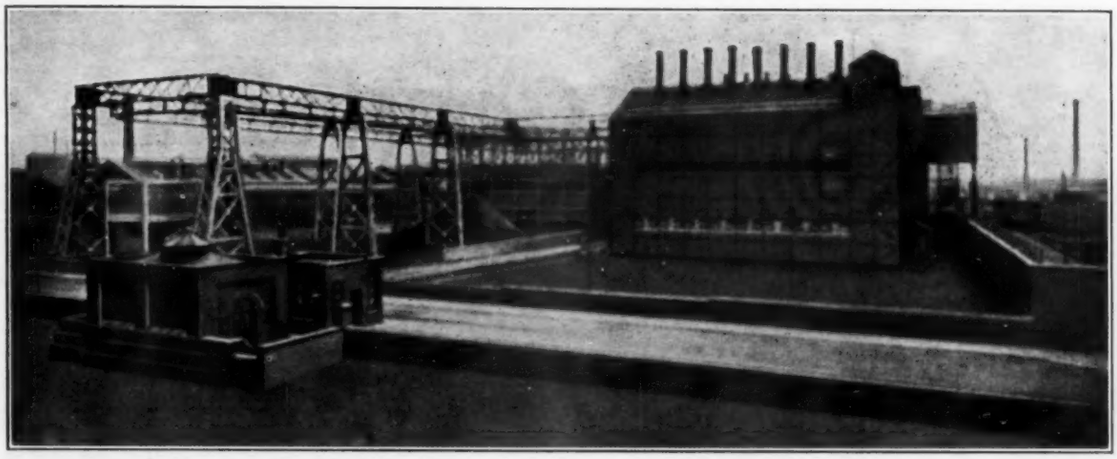
Already one additional plant with facilities of 100 ranges per day has been established at Los Angeles and plans for additional plants in other sections are being considered.

There is an opportunity for trade dominance still open in a few highly desirable markets for Gas Range merchandisers who recognize the sales advantages of an outstanding quality product. Write.

A-B STOVE COMPANY · Battle Creek, Michigan

A-B Gas Ranges

"Recognized Everywhere As America's Best"



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Waste-Heat Boilers...
Coal Plant..... Each of the two retort benches is provided with duplicate coal breakers, wagon tippers and a line of pivoted-bucket conveyor with an electric lift and side-tipping wagons as a standby.
Coke Plant..... Coke is handled on a system of telpherage to screens and storage hoppers.
Foundations ..... Reinforced concrete raft.
Reinforced Concrete.. Two batteries of storage hoppers each with receiving hoppers for six screens; trestles and supports for the telpher track.
This Installation..... Is arranged to run in parallel with another system of vertical retorts, two installations of horizontal retorts and the water-gas plant, all of approximately the same capacity, and each provided with separate auxiliary plant and meter so that comparative results can be obtained.

particulars and estimates from

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Vertical Retorts

American Gas Journal

SIXTY-FIFTH YEAR

Published Weekly by American Gas Light Journal, Inc., 33 Park Place, New York, N. Y.

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The Art of Selling Industrial Gas

Feature the points that appeal to your prospect when selling industrial gas

A. B. Greenleaf

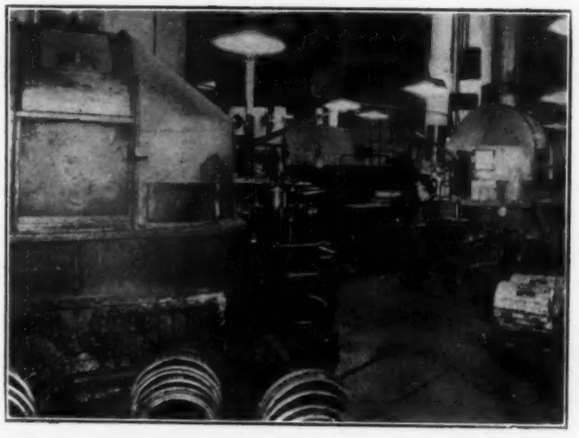
The People's Gas Light and Coke Company

THOSE of us who have either bought or sold manufactured gas for industrial heating operations are sufficiently well acquainted with the multitude of selling arguments, old and new, commonly employed in marketing this great fuel. Every angle and phase relative to the process of combustion has been explored with a view towards securing new and convincing arguments in favor of the wholesale use of gas. We have heard, and used, certain scientific facts until they seem threadbare and absolutely void of any real worth. Aside from these selling arguments based on the more technical questions involved, there are, of course, a lot of "stereotyped" sales helps aimed at the economical issues. These, too, are used by the average salesman and in most industrial gas advertising. Generally speaking, they are worth neither the time, energy nor ink spent upon them.

A Long List of Advantages

Merely to assist the reader in recalling to mind a few of the most popular subjects utilized in endeavoring to convince a prospective customer of the advantages accompanying industrial gas service a short list is appended:

Clean.
Flexible.
100 per cent fuel.
No smoke.
No dirt.
No ashes.
Ideal fuel.
Permanent.
Stable price.
No waiting.
Dependable.
Versatile.
Universal.
Convenient.
Adaptable.
Efficient.
Economical.
Ultimate fuel.
Inexhaustible.



Ten Ton Stereotype Furnaces in a Great Newspaper Plant

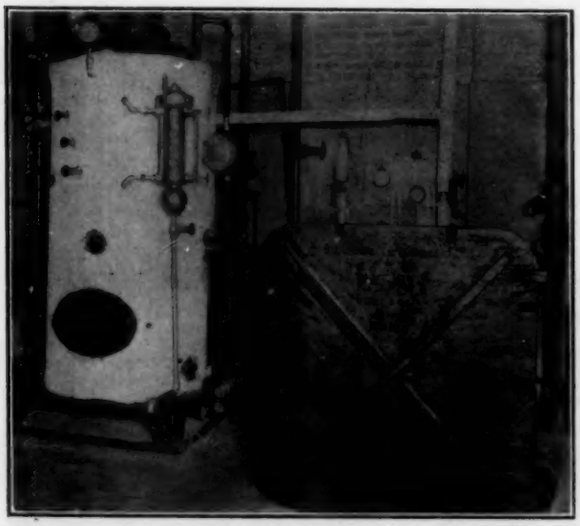
Saving of floor space.
Improvement of quality.
Availability of supply.
Control of furnace atmosphere.
Increased equipment life.
Constant chemical composition.
Constant calorific value.
Absolute continuity of supply.
Elimination of waste.
Increased production.

Easy to ignite.
Reduction of fire hazards.
No reserve supply required.
No interest money invested in fuel.
Accurate temperature control.

Each of the above-mentioned features of gas, and gas service, is very true and of inestimable value in selling. They cannot be abandoned. However true they may be, and of worthwhile character, the fact remains they have become hackneyed, stereotyped phraseology to which the up-to-date, modern manufacturer pays little or no attention.

Futility of Stereotyped Sales Arguments

Take, for example, any of the above quoted sales arguments. Suppose we decide to "sell" our customer on the idea that it would be to his advantage



A 12 h. p. Gas Fired Boiler Supplying Steam to Autoclave Used in Preparing Food Products

to burn gas because of its "Constant Chemical Composition and Calorific Value," or perhaps we think he will be interested in knowing that it is a very "flexible" fuel. These statements are true, very true, and the men that first coined them are undoubtedly deserving of very great praise.

Nevertheless, the plain statement that gas has a "Constant Composition and Calorific Value" and is a "Flexible" fuel means very little or nothing to the average modern manufacturer. That they mean nothing by no means disproves their value or importance to the sales engineer. The difficulty is that the manufacturer is unable to see the value of a "Flexible" fuel on the right side of the ledger. The value IS there, but he is unable to visualize any possible economy.

One Solution

This difficulty, in a great many instances, may be overcome by making a trial installation over a period of time, keeping accurate data on every phase of the new installation as well as the old. Comparative costs are easily arrived at and used to advantage in securing an order for the complete conversion of the entire plant. Quite frequently an economy is effected by such an installation that will alone be sufficient to warrant the conversion of the entire plant to gas.

As an Advertising Feature

Some of the largest industrial gas installations in the country are the result of the sales engineer being able to "sell" his customers on the idea that gas is cheaper and better because of a certain inherent feature that particularly applied to the case in question. The baking of bread, in a gas-fired traveling bread oven, positively insures uniform quality and color to each and every loaf. As an advertising feature this is worth hundreds of thousands of dollars each year. If the cost of gas were regarded as an "advertising expense" it would be shown to bring in greater returns than from any other phase of publicity.

Too Many Features Result in Confusion

Broadsiding statements relative to the "Flexibility," "Uniformity" and all the other features of

Forging Steel Hatchets. Non-Oxidizing Atmosphere in Furnace Prevents Pitting

gas fired at the potential customer leave him in confusion and uncertainty. Repeatedly telling the customer that he should use gas because it is safer, cleaner, quicker, more reliable, uniform, 100 per cent pure, and a thousand other reasons, should be stopped.

(Continued on page 414)

How Best to Pass Information Contained in Gas Journals on to the Employees*

A discussion of a number of proposed and applied plans

Alan D. Whittaker

THE employees I have in mind are all of those under the rank of superintendent in the manufacturing, distribution and new business departments of an average gas company.

Gas journals come in regularly and are generally read and enjoyed by some of the heads of departments. Sometimes the articles are discussed among them, but too often the reading is cursory, a vague intention is made to study more closely some particular article, the magazine is filed neatly away and the gas industry proceeds unruffled.

If the gas journals receive too scant attention from the upper men, how shall we expect the other employees to take interest in them—even supposing a number of copies are distributed among them?

What will furnish the spur to any class of employees or heads of departments to study and make use of the information published? That is the keynote to what I have to say.

Gas Journals Are a Current History of Business

Let us first consider the gas journals themselves. These publications are a current history of the gas business. They give in full the papers read at the different gas association conventions much sooner than the proceedings of the conventions are published. Personal notes of the men of the industry—news of construction and undertakings—views, comments and editorials—rate cases—court decisions—development of coal, oil and other raw materials—selling campaigns—all of these and many other subjects go to make up the issues. In addition, there are the advertisements, which are a never ending source of information.

Who in the gas company's organization assumes the authority of saying when and where this instrument of education shall be sidetracked into the file and decides that his company would receive no further benefit by more extended reading of the journal among the employees?

Or, assuming the employees have copies to read, how is the scope, zeal or benefit of their reading checked up?

How Are the Gas Journals Handled?

I can readily imagine an incident like this:

At a general meeting of heads of departments the general manager might spring a mild sensation by saying: "Gentlemen, we subscribe for a good many magazines, etc., bearing on our industry. I am not at all concerned about what we pay for these, but I am vastly concerned about whether our company is getting all the good it should get from these publications and I would like to have each head state just what his custom is in handling these magazines."

If this question generally had a satisfactory solution there would be no need of bringing up a discussion of it here.

To satisfy myself about this matter, I wrote the editors of various journals and I could tell from their replies that the matter is still open for suggestion and discussion.

How One Company Handles the Problem

"We are at present trying to find the answer to this very problem. For your information I might give you some idea of what we are trying to accomplish. We receive in our library, at present, a great many monthly magazines and periodicals that have a decided bearing on our industry. We have found that it is a mammoth task to expect our librarian to read this matter and detect certain articles that would be, perhaps, of particular interest to some certain department head or engineer in the company. We know it is extremely difficult to differentiate in these matters as to who would be the most interested, and the librarian having no technical knowledge, makes it extremely difficult to observe certain data that may be of inestimable value to the company.

"These articles are often prepared as the outcome of a great deal of time, concentration and research. We know we can not expect these busy department heads, superintendents and engineers to look through these valuable magazines and reports, due to the pressure of time. Therefore, the magazines are not, perhaps, serving the purpose as they should.

One Man to Select and Mark Articles for Attention of Members of Organization

"We had an idea that it might pay to have someone sufficiently trained, with some technical knowledge, and a comprehensive versatility of the industry in all its activities, both commercial and engineering. In looking over this printed matter, magazines, books, journals, etc., if certain interesting articles were observed, he would forward such matter directly to the department head, superintendent, or engineer to whom he decided it would be most effective and profitable. We would then ask that said article be carefully read and digested, and in turn give the secretary of the company, or some other designated official, his reply, criticisms, approvals, etc., and point out in what respect the subject could be applied to some of our operations, and perhaps the writer's suggestion adopted. We do not feel it would be difficult to have our keymen comment on

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*Presented at the Sixteenth Annual Meeting of the Southern Gas Association at Augusta, Ga., April, 1924.

these articles, if they were specifically pointed out to them for consideration.

Company Still Looking for Best Solution of Problem

"We have not been able, so far, to find any company which is handling this subject in such an ambitious manner. Having the subject under serious consideration, we are still looking for the best possible way in which we could make this large amount ol publicity more effective. We do go so far as to point out to the organization that there are certain books, magazines, etc., constantly being received in the library, stating the subject and the author, and while this has response, yet we know, due to the great pressure and responsibility, these requests are neglected. Often, when the librarian does hear of some very interesting matter that is being handled very effectively in some other state, it is only by chance that he has become conversant with the matter. The plan I have in mind would be more direct. While reading these articles, our men are going through an intensive concentration, due to the fact that they are making certain deductions preparatory to their final reply."

Three General Methods Used by Gas Companies

"In reference to your letter of March 19, in which you asked me to outline my opinions on the subject, 'How to pass on Information in Gas and Engineering Journals to the Employees of the Company,' which is to be discussed at the annual meeting of the Southern Gas Association, would say that I have found that gas companies handle this problem in several different ways.

"In some companies, subscription to the various papers desired is entered in the name of the company. After these periodicals are looked through in the executive office, they are placed in the library for reference.

"Other companies subscribe also in the name of the company, but designate one man in the organization to examine the various papers as they are delivered, mark an article of interest to the manufacturing department, another for the distribution department, another for the commercial department, etc., and the heads of the various departments are requested to read the articles so marked. The paper is then returned to the library for reference.

"Still other companies print the names of the employees whom they want to read the different periodicals subscribed for on a slip of paper, which is attached to the front cover of the copies as delivered. Each man whose name is on the list places a check after it after he has read the paper, and then passes it on to the next man, and it is finally returned to the library for reference.

Criticism of First Method

"The first method is not only unsatisfactory but wasteful, for if an employee wants to look up any information, he is obliged to spend a lot of time looking over back numbers, and then may not find what he wants, due to the fact that he may not have read that particular issue previously.

"The second method is better, although it is left to the judgment of one man as to what articles should be read by certain men in the organization, and there may be other material in that issue of just as much value and interest to each of them which would not be brought to their attention.

Hurried Perusal of Journal Occasioned by Third Method

"The third method insures each man going through the whole issue, and if he can retain in his mind the material most interesting to him so that he can go to the library as occasion requires and refresh his memory on the subject, both he and the company will derive real benefit. However, it is a decided disadvantage that the employee who reads the paper marked for his attention is generally requested to make as rapid disposition of the matter as possible, so that the paper may proceed on its way to other individuals in the organization. Naturally this hurried perusal does not give him an opportunity to make any detailed notes for future reference. If there is anything that he wants to look over again, he generally believes that he can do so some other time when the periodical will have reached the library files.

"The result is that very often the important articles that are published are not read by the people for whose information they are marked until a considerable time after the date of publication, or else they are not read at all if the individual neglects to make a note of their pertinency or does not give them his attention due to pressure of business. The real disadvantage is that the periodical is the property of the company. It cannot be retained by those to whom it is sent for perusal, while if it came to the man direct, he would be able to read it at his leisure, digest the contents of the articles thoroughly and gain a great deal more benefit from the material that is published.

Articles May Not Appeal to the Man at the Moment

"There is no question but that all the articles may not appeal to everybody at the moment they are published, but they may have some important reference to a man's work at some future time. If the employee has copies of the trade papers in his own file, then, of course, he can turn to them immediately and find the article in which he is interested, derive considerable benefit from the information contained therein, and probably be able to apply this information to his individual purpose. If handled in this way, these papers form a veritable mine of valuable information to which he can turn at any moment.

Articles Published in Running Series

"There is another important disadvantage connected with this matter which becomes evident when

(Continued on page 419)

INDUSTRIAL GAS LESSONS

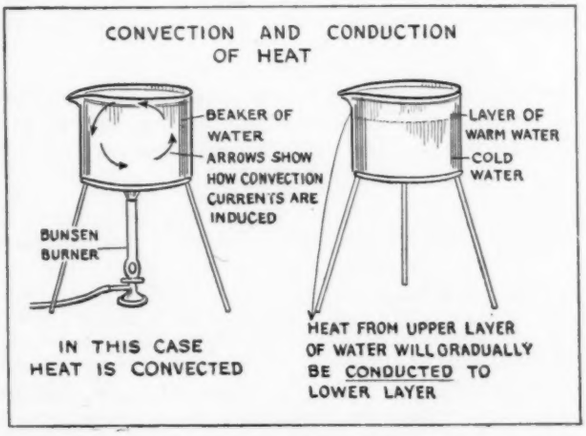
IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 18

Convection of Heat (continued)

Difference Between Convection and Conduction of Heat

The difference between convection and conduction of heat may be more clearly explained by considering a definite example. In the ordinary type of hot water heater, consisting of a coil heater, heated by gas, and an upright cylindrical tank containing water, as the water is heated in the coil, its temperature rises and its volume increases. This has been explained as being one of the characteristic effects of heat; in other words, expansion. Due to the fact that the volume of the water is increased, while the weight remains the same, it is clear that the weight per volume will be less than what it was before the water was heated. In other words, the water becomes lighter as it is heated. The result is that it rises in the tank.


CONVECTION AND CONDUCTION OF HEAT
BEAKER OF WATER
ARROWS SHOW HOW CONVECTION CURRENTS ARE INDUCED
BUNSEN BURNER
IN THIS CASE HEAT IS CONVECTED
LAYER OF WARM WATER
COLD WATER
HEAT FROM UPPER LAYER OF WATER WILL GRADUALLY BE CONDUCTED TO LOWER LAYER

The same phenomenon takes place when heating a beaker of water over a Bunsen burner. If particles of a solid are placed in the water it will be seen at once that there is a constant upward movement of the particles of the solid, showing that the lower layers of water are continually rising as their temperature is increased by coming in contact with the heat from the flame of burning gas in the Bunsen burner. The movement of the water is due entirely to the increase in its temperature, and nothing else. The heat is, therefore, convected from the bottom of the vessel by the actual movement of particles of the liquid that is being heated.

Now suppose the heating is stopped in the case of the hot water heater. The top section of the water tank will be hot or warm. The lower portion will be cold. Just a simple observation will prove this fact. If the hot water is left in the tank and allowed to cool off, it will be found that the water becomes cold rather quickly, more quickly than can be accounted for by mere conduction and radiation through the metal walls of the tank. What happens is that the heat in the hot top-layer of water is conducted to the cold under-layer of water, and conduction continues until the entire mass of water attains an identical temperature.

In the heating process the heat was being transmitted in the form of an energy charge on the particles of water, from the bottom to the top of the tank. In the cooling process the heat was dissipated by conduction, the particles of water remaining stationary to all intents and purposes.

Convection of Heat in Air

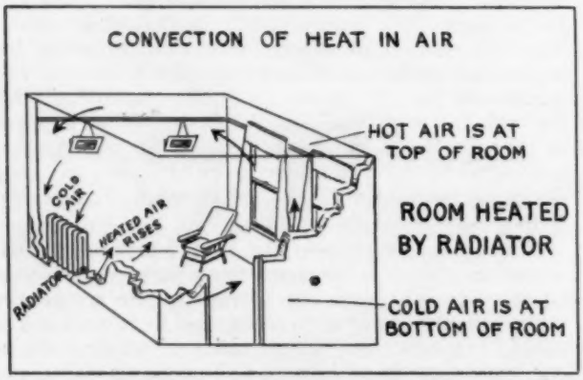
Heat is transmitted from place to place by convection in the case of gases as well as liquids The most common case is that of air. The ordinary hot air furnace depends solely on the principle that, when air is heated, it becomes lighter and rises and the heat that it contains is therefore moved from the furnace in which the high temperature was attained to the rooms of the house which are to be heated. In a hot air furnace there is a constant stream of cold air being drawn from the outside or from the cellar, when there is no external duct connected to the furnace. This air is caused to flow into the furnace, due to the fact that the cold air, being heat therein and rising, creates a partial vacuum which sucks in new cold air. After the air has been heated by passing through the hot air furnace, it rises through the various pipes and is discharged into the rooms through registers in the floors or walls.

The fact that hot air rises, or, expressed in other words, that when air is heated, its volume is increased and the total weight necessarily remaining the same, the weight per unit volume becomes less, and that in this way heat is convected from place to place is taken into account in the ventilation of rooms. It is customary to open the window at the

top to allow the hot air to escape and at the bottom to allow fresh, cold, heavier air to enter the room

Heating a Room by a Radiator

Air currents are also created in a room which is heated by a steam radiator. The air around the radiator becomes hot and rises, being continually displaced by cold air, which is similarly heated, and rises to the top of the room. In this way the air of the room is circulated. If there is a window open in the room the hot air will escape through it, and, if not, the heated air will again be made to come in contact with the radiator and be heated to a still higher temperature, and hence become lighter than the air that was heated in the first place. In other words, as the temperature of the air increases, it continually becomes lighter and rises.


CONVECTION OF HEAT IN AIR
HOT AIR IS AT TOP OF ROOM
ROOM HEATED BY RADIATOR
COLD AIR IS AT BOTTOM OF ROOM
COLD AIR
HEATED AIR RISES
RADIATOR

Just a final word in connection with the transmission of heat by convection. It must be remembered that the heat itself remains in the hot particles of the liquid or gas until it comes in contact with colder bodies, whereat the heat is transmitted to them by direct conduction. The convection currents do not actually transmit heat, but heated particles, and it is only when the hot particles come in contact with colder bodies that actual transmission of heat takes place.

BETWEEN OURSELVES

J. B. Dillon

Opinions differ, we must admit, or we would be forced to the same conclusion as was the old woman who said: "If they didn't, this would be a drab and indifferent world."

Now, then, let us agree that opinions do differ, because I have to differ with the sage who said: "When you do not know what to do, do nothing."

If any gas man, either in the laboratory, plant or dealer of gas utensils, does not know what to do, I say read the trade papers. Study their editorials; such articles as will be helpful to you, and by all means study the advertisements—yes, study the advertisements—because a clear conception of the advertisements will enable you to write sales getting advertisements in your local papers, and card signs for your show window, and, of course, they will school you to make a more convincing sales talk, which means more sales.

Long or Short Advertisements

In a recent meeting of some advertising experts, opinions differed as to whether a newspaper advertisement should be long or short. Some said that a long advertisement which went into all the details and explanation of the article to be sold was better than excerpts (small advertisements) frequently run.

Right here is where I take the stand that to spend all our money for one big advertisement is like shooting all our powder at one bird, and then find ourselves in the predicament of having nothing to shoot with at the other birds.

Make your advertisements of medium size as to space, the type reasonably large, so that it will be easily seen and easily read, and repeat often so that folks who read your first herald will understand that you are at the same old stand ready to serve them.

When I say repeat, it is not to be understood that the same wording must be used, unless, of course, there has been a real increase in sales, but by repeat is meant to keep on advertising. Change the wording as often as you get a new idea, one that you believe ought to make everybody "sit up and take notice."

A FEW PHRASES FOR THE AD MAN

Paraphrase the sentence: "You say you love her, buy her a gas range," make it, "You say you love her, see that she has an all gas laundry," or "You say you love them, give them comfort, buy a glowing gas heater for the living room."

* * * * *

People are judged by their possessions, not by the cost, but by the quality. The ——— gas range cost is low, yet in quality it is second to none.

* * * * *

The ——— heater in that empty fireplace combines beauty and convenience with enduring usefulness.

* * * * *

The experience of specialists is freely at your command for solving any problem bearing on gas for fuel.

* * * * *

Endurance: In buying a water heater consider what the cost will be divided over fifteen years' service; yearly cost, not first cost, must be considered.

* * * * *

Service or Cost, Which? The ——— has that combination we all should look for, beauty, endurance and economy, and while the first cost of a ——— heater may be a few dollars higher, its cost per year is so low you cannot afford to be without it.

* * * * *

It's never too cold to bathe when there's a ——— near by. Just turn a valve, snap a switch and a radiant warmth immediately bursts forth to banish all discomfort of a cold bath room.

As The Journal Views It

SELLING INDUSTRIAL GAS

The advent of the gas industry into the industrial fuel field has made necessary the educating, training and developing of a new type—if we may call it so—of gas man, or, rather, gas salesman. For a man who goes out to sell gas for industrial purposes must not only be a good salesman, but he must also possess sufficient technical knowledge concerning gas and the thermal results that can be produced with it, so that he can talk to the engineer in his own language. In other words, the industrial gas salesman must be able to convince the engineer of the plant, to whom he wishes to sell gas, that this fuel possesses certain important technical advantages over other fuels, either liquid or solid. This means, of course, that the industrial gas salesman must be both adept in the art of salesmanship, as well as well-informed on technical subjects.

Much has been said and written about how to sell gas to the domestic customer as well as gas appliances of the usual sort. The fundamentals of such salesmanship have been pretty well developed and corroborated by practical experience. On the other hand, comparatively little has been written regarding the art of selling industrial gas.

In another part of the present issue there is published a paper on this important subject. As has been brought forth therein, the advantages that can be ascribed to manufactured gas as an industrial fuel are quite numerous. These advantages, are partly industrial and partly economic, but mostly technical. They are all good arguments for the sale of gas as an industrial fuel, but the question arises, and is very succinctly answered, which of these arguments should be used in tackling an individual problem, and how can they be used to advantage by the gas salesman?

The important point is to use that argument which appeals directly to the user of the fuel. There is no advantage in telling him about the benefits that he will derive from gas that bear no particular relation to his own individual problem. This is a fundamental of salesmanship in general, and it applies just as emphatically, if not more so, in selling industrial gas as it does in the sale of the gas stove or a gas water heater to a domestic customer.

In selling industrial gas it is important that the appeal should be made direct to the user, and that the advantages that gas has for him and his particular problem should be emphasized and dwelt upon, to the exclusion of all the others, no matter how true they might be. The industrial gas salesman must bear in mind that the art of selling consists in convincing the buyer that he will gain by purchasing what the salesman has to sell, and the only way to do this is to show him by definite or concrete example how he can gain by using gas in place of other fuels.

It remains to be emphasized that this matter is really of more importance in the sale of industrial gas than perhaps in many other fields, for each problem which gas is called upon to sell has its own individual characteristics which differentiate it very clearly from all others. Gas has in practically every case a special advantage over the other fuels, and if that advantage is picked out from the long list of good qualities that are possessed by this fuel, and if it is impressed upon the mind of the prospective buyer to his complete satisfaction, then the sale will be made.

On the other hand, if the salesman tackles the problem—no matter what it may happen to be, from the baking of bread to the melting of steel—in a haphazard fashion, using stereotyped arguments and catch phrases that are true enough in themselves, but that have no special bearing on the problem that he is trying to solve, then the prospective buyer will be little influenced by the efforts of the salesman and the sale will not be made?

Perhaps the best analogy that can be drawn between the need of studying of each individual gas problem as an entity and avoiding all arguments that have no distinct relations to it is, as has been described in the aforementioned article, the attitude of the physician in treating a malady. He prescribes the medicament that is indicated by the ailment, and

does not bother with all the other drugs and medicines that are found in the pharmaceutical category. So it is with the industrial gas salesman. He must apply only that specific argument in his effort to make the sale that will cure the customer of his predilection towards using other fuels besides gas and forget about the others.

This may be said to form one of the principal points in industrial gas salesmanship and should be borne in mind by every industrial gas salesman as a sine qua non of success in selling gas for industrial purposes.

THE ART OF SELLING INDUSTRIAL GAS

(Continued from page 408)

There Is Always One Feature That Particularly Applies

However indisputable it may be that gas is safer, cleaner, quicker, and that it possesses a myriad of other desirabilities, the fact remains that the brick manufacturer cares nothing for that particular features which makes gas so indispensable to the cracker baker. The steel treater capitalizes on one feature of industrial gas service and the doughnut fryer on another. They are both aware and appreciative of industrial gas service, but there is always some one item that can be figured in dollars and cents on the right side of the ledger.

A man confined to his bed with a severe cold would hardly be given cures for every known human ailment. Instead, a competent physician would be summoned and a specific remedy prescribed that would restore the patient to good health. Likewise, in selling industrial gas, there is always some specific feature that will prove to be of more value than all the other qualities put together. Whatever this feature may be, it should tirelessly be sought for, and, when once determined, capitalized to the fullest possible degree.

"Dependability" Features in This Case

Gas is used for melting all kinds of type and type material in the great newspaper offices because their very existence depends upon getting the various editions out on the street on schedule time. The value of the "Dependability" of gas is here very apparent. The actual cost of the gas used in a period of two or three years is considerably less than the damages sustained in failing to get a single edition out on time. "Dependability" is the "big" feature here.

Another Feature

The die-casting industry in Chicago, alone, required two hundred million cubic feet of gas per year. The feature that has made it so universally popular is one hardly ever mentioned in category of advantages. The space within the die-casting machine in which combustion takes place is of necessity extremely small. There is only one fuel that can be used in this small space and that fuel is GAS. Dependability, Temperature Control, Cleanliness and many other items incidental to gas are of great value to the die-caster, but the one feature that he can capitalize on is the fact that gas requires the smallest known space for combustion.

Small Tools

A certain manufacturer of small tools uses gas in the heating of steel for forging. The furnace atmosphere is caused to be non-oxidizing. Hence pitting, and all the subsequent injuries to the steel, are eliminated. The gas-fired forge, therefore, eliminates a half-dozen grinding operations, saves labor and improves quality. The "big" feature here is that gas eliminates pitting.

Convenience

Thousands of boilers in Chicago are fired with gas. They are enjoying an immense popularity, due to one single item—convenience. This feature should always be capitalized in selling boilers. The clothing manufacturer uses a gas-fired boiler up in an old loft building because it is convenient. He cares little that gas will not pit steel forgings. It is of no consequence to him that there is no other fuel that can be utilized in as small a space as gas. Dependability is important, but to the manufacturing clothier "convenience" is paramount, and, if featured as such, results are sure to follow.

Select the Right Feature

Thousands of advantages accompany industrial gas. Each one of the advantages applies to some definite line of business. Do not confuse your prospect's mind with a mass of miscellaneous facts and figures. Select the feature that particularly applies to the type of business he is engaged in, and keep foremost in the mind of your customer the one single thought that means dollars and cents to him.

SOLUBILITY

The Chemical Catalogue Company of New York recently published a book entitled "Solubility," by Joel H. Hildebrand, professor of chemistry in the University of California. This is a very important publication. As the author states, it is the outgrowth of a number of years of rather intensive study of the problem of solubility. The book goes into the fundamental laws that govern solubility and is prepared in as thorough a manner as any book on the subject that has ever appeared. The mathematical side of the problem is developed rather intensively, which may make it a little difficult for the beginner to understand; nevertheless, the various principles are clearly described and the book in every way fills a want that has been felt for a long time.

Catechism of Central Station Gas Engineering in the United States

Installment No. 18

(Continued from last week)

Arrangement of Valves

These valves are set vertically one above the other, and their stems are so connected by a system of levers and connecting rods, as shown, that one must be closed when the other is open, and vice versa. The upper valve is always open during the blow, and its seat, which is thus exposed to the heat of the blast gases, is made hollow and is kept cool by passing water through it. The lower valve, which is not exposed to any heat during the blow, is a plain double gate valve. The valves are operated by means of a hand wheel keyed to a shaft, on which is a pinion working in a rack on the stem of the upper valve, which is thus raised and lowered directly, motion being transmitted to the lower valve by means of the system of levers and rods.

A steam pipe enters the generator above the top of the fuel bed and one also enters it below the grate bars, each pipe being provided with its own valve. When it is desired to make an "up-run," that is, to pass the steam upwards through the fire, the gas valves are left as they were during the blow, the upper one being open and the lower one closed, and steam is admitted to the generator through the bottom steam pipe. As the only exit open is that at the top of the generator, the steam and the gas produced from it must pass up through the fire and out at the top. To make a "down-run," the position of the valves is reversed, the upper one being closed and the lower one open, steam is admitted through the top steam pipe, passes down through the fire, and the gas produced leaves the generator by the lower opening.

Reversal of Direction of Steam Travel

The reversal of the direction in which the steam travels through the fire results in an increase in the capacity of the apparatus, and in economy in fuel consumption. By the passing over it, during the down-run of the hot gas produced in the upper part of the fire, the coal in the lower part, that has been quenched by the steam during the up-run, is reheated so that the blast can rekindle it and bring it to the proper temperature for the decomposition of steam. In this way the accumulation on the grate bars of unburnt fuel is prevented, the result being that a deeper bed of active carbon is maintained, the fire does not have to be cleaned so often, and when cleaned there is less unconsumed fuel taken out with the ashes than when the steam travels through the fire only in the upward direction.

Construction of Oil Nozzle for Introducing Oil Into Water Gas Apparatus

95. Give a description, illustrated with sketches, of one or more forms of oil nozzle for introducing the oil into a carbureted water-gas apparatus, and state the points to be observed in the design of such a nozzle, and the conditions of pressure in the oil pipe and adjustment of the opening in the nozzle that give the best results.

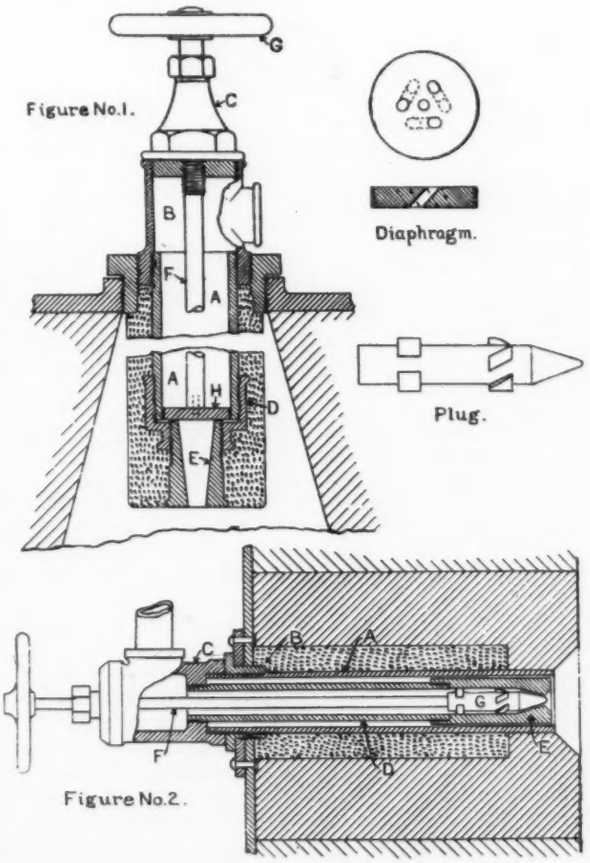


Figure No.2.

Ans. The oil nozzle or spraying device illustrated by Figure No. 1 on the accompanying cut is one that is extensively used on double superheater carbureted water-gas sets. It is mounted on the top plate of the carbureter neck and delivers the oil downward.

According to the patent specifications its principal features are "a section casing, a diaphragm provided with inclined openings for imparting rotary motion

to the jets or streams of liquid hydrocarbon as they are discharged from the casing, and means for adjustably seating said diaphragm."

Description of Double Superheater Spraying Device

The casing is formed of a cast iron tube, A, with an external thread at each end, a cast iron tee, B, screwed on the upper end of the tube, a stuffing box, C, screwed into the upper opening of the tee, a reducing coupling, D, screwed on the lower end of the tube, and a nozzle, E, screwed into this coupling.

Through the stuffing box passes a steel spindle, F, which works in a thread cut in the bottom of the box in the same manner as an ordinary valve stem. On the upper end of this spindle is fastened a small handwheel, G, by which it can be easily turned and thus raised or lowered. To the lower end is fastened the diaphragm, H. This diaphragm is faced so as to make a tight joint with the upper edge of the nozzle, E, this edge being also faced and made to project above the bottom of the coupling so as to form a seat for the diaphragm. In the latter are drilled holes inclined at an angle to its face as shown in the enlarged plan and section of it given on the cut. The number and size of these holes are varied to suit the size of the set on which the nozzle is to be used, since the quantity of oil that has to be passed in a given time depends upon the rate at which gas is made, that is, upon the size of the set. The lengths of the tube A and the spindle F are also made to suit the length of the carbureter neck, the bottom of the nozzle being brought either just even with or a trifle below the level of the carbureter head.

After being put together the spraying device is fastened to the plate covering the neck of the carbureter by means of a bushing. The parts exposed to the heat inside the carbureter are protected by being wrapped with asbestos wick.

The oil supply pipe is connected to the side outlet of the tee, B.

How the Device Works

When oil under pressure is supplied to this device with the diaphragm pressed tightly down upon the nozzle, it can pass only through the inclined openings in the diaphragm. It issues from these at a high velocity, and, striking against the circumference of the nozzle at an angle, is given a rotary motion which causes it to spread out in a spray as it leaves the nozzle and distribute itself over the whole surface of the cross section of the carbureter. The extent to which the spray will spread out is controlled by raising the diaphragm from its seat and thus allowing more or less of the oil to pass around its circumference instead of through the holes. The oil thus passed around, if not in too large quantity, will be broken up and given a rotary motion by the jets coming through the holes, but the doing of this work will absorb some of the energy possessed by the jets and will thus reduce the velocity of rotation of the oil and therefore the extent to which the spray will spread.

Description of Apparatus Shown in Fig. 2

Another form of spray which is used on carbureted water-gas apparatus of a different make from that using the form described above is illustrated in Figure No. 2 on the cut. It is mounted on the side of the carbureter or superheater and delivers the oil horizontally.

This form differs from the one previously described principally in the use of a plug instead of a diaphragm for giving the oil a rotary motion.

The outer casing tube, A, is made of wrought iron pipe and is threaded externally at one end only. Over this end is screwed a bushing, B, run far enough down to leave sufficient thread to allow the recessed end of a tee, C, to be screwed on the tube. In a smaller thread at the same end of the tee is screwed the outer end of the inner tube, D, which tube is threaded externally at both ends. On its inner end is screwed a steel nozzle, E. The tee, C, is provided with a stuffing box through which passes a spindle, F, similar to the one described above.

To the inner end of the spindle is fastened a plug, G, an enlarged view, of which is also shown on the cut. It is made with a cylindrical body, with one end cut off square and the other made conical, and is provided with two sets of lugs which serve to break up the oil and give it a rotary motion. The conical end of this plug fits against a conical seat in the nozzle and thus serves as a valve by which the flow of oil can be controlled. The lugs nearest the square end of the plug have their longitudinal edges parallel to the axis of the plug, while those nearest the conical end have their edges at an angle with the axis and are so placed around the circumference that the end toward the first set come opposite the openings between the lugs of that set. Both sets of lugs fit closely against the circumference of the recess in the nozzle so that all the oil has to pass through the spaces left between the lugs themselves.

Operation of Spraying Device

The operation of the device is similar to that of the one first described. When oil is to be introduced into the apparatus the plug is drawn off the seat in the nozzle far enough to permit the oil to pass at the required rate. Oil is then forced under pressure through the inner tube until it strikes the lugs, and in passing between them is first broken up and then deflected so that it strikes against the conical portion of the nozzle at an angle, and is thus given a rotary motion which causes it to form a spreading spray as it issues from the nozzle orifice.

The main points to be observed in the design of an oil nozzle to be used for introducing oil into a carbureted water-gas apparatus are that it shall produce a good spray the spread of which is under control, that the parts that produce the spray shall be kept as much away from exposure to heat as possible, and that these parts shall be so constructed that they will continue to work well even if they become slightly warped under the influence of the heat. The design should also be such that the nozzle can be

readily withdrawn and new parts substituted for any that may become injured or worn out. Operators vary in their ideas as to the proper pressure to be used even with the same nozzle, but twenty pounds per square inch may be taken as a good pressure, and the opening between the diaphragm or the plug and its seat should be such that the nozzle will pass the required amount of oil with this pressure and at the same time produce a spray that will spread so as to cover the full cross section of the carbureter before it reaches the top of the checker brick.

The Single Versus the Double Lining in the Generator in a Carburetted Water Gas Set

96. Should the lining in the generator of a carbureted water-gas apparatus be made single or double? Give the reasons for your answer.

Ans. The lining for the generator of a carbureted water-gas apparatus can be made of single courses of blocks having the desired thickness, except for that portion of the height extending from just below the level of the grate bars to a point 4 ft. above these bars, or even 5 ft. above, if the fuel used is such that clinker forms against the wall to an unusual height, where it should be made with inner and outer courses whose combined thickness, including that of the joint between them, is equal to that of the single courses used above and below this zone.

Renewal of the Lining

Except at the place mentioned the lining is not subject to any considerable wear and should not have to be renewed more than once in four to five years. A single course of thick blocks can be made and put in place more cheaply than two courses of thinner blocks and therefore is to be preferred where the wear and tear is inconsiderable. For a height of 3 ft. or 4 ft. above the grate, however, the inner surface of the lining is subjected to a great deal of wear, on account of the formation, during the operation of the apparatus, of hard clinker which adheres tightly to the wall of this portion of the generator and has to be cut away from it with heavy steel bars each time the fire is cleaned. Even when the greatest care is taken not to injure it, the wall is sure to suffer from this cutting in the course of no great length of time and this part of the lining of the generator must be renewed at intervals of from one to two years. If it is made in a single course of blocks the whole of the lining within the clinker zone must be taken out and replaced at these times, while if made in two courses it is only necessary to renew the inner course. In any case the work must be done before the thickness of the whole lining is reduced to that of the outer course of the two, so that the intervals between renewals cannot be made any longer with a single lining and the extra cost of renewing a single lining as compared with that of renewing only the inner course of a double lining cannot be offset in this way. A double lining for this part of the generator is therefore more economical in the long run even though it may cost slightly more at first.

If, as is sometimes the case, a double lining is used throughout, at least two courses of single lining should be put in immediately above the courses that require frequent renewing in order to hold up the inner courses of the wall above them while the work is under way. If these single courses are not provided it is necessary to support the upper part of the wall when relining, and this adds to the length of time required to do the work of relining as well as to the cost of this work.

Means for Reducing Explosion Dangers

97. Describe one, or more, of the various methods of construction that are employed to reduce to a minimum the damage resulting from an explosion in the blast pipe of a carbureted water-gas apparatus, and explain how they act.

Ans. One method for reducing to a minimum the damage resulting from an explosion in the blast pipe of a carbureted water-gas apparatus is to place at different points on the blast pipe relief valves which are loaded so that, while they remain tightly closed as long as the pressure in the blast pipe is at or below normal, they will be raised as soon as the pressure exceeds the normal. It is usual to place one of these relief valves on each of the elbows nearest to the valves governing the admission of the blast to the various parts of the apparatus. If an explosive mixture of air and gas is formed in the blast pipe during the run and exploded when the blow is put on, these valves are at once opened by the increase in pressure and afford a relief, which, if the explosion is not too violent, will prevent injury to the blast pipe or blowers.

Devices on the Blast Pipe

The same effect may be secured by having one section of blast pipe made very light so that it will give way and relieve the pressure before any damage is done to the stronger portions of the pipe. Duplicates of this light section are kept in stock and can be put in place very quickly, so that gas making can be resumed in a short time after the explosion.

A third method is to put at every place at which the blast pipe changes its direction a tee with its free end pointing in the direction that would be followed by the explosive wave traveling back from the apparatus towards the blowers. The end of each tee is flanged and closed by a blind flange of tin bolted on with very light bolts. In case of an explosion these thin flanges are blown off before the pressure rises to a point high enough to damage the pipe, especially as they receive the full force of the wave as it travels along.

The Use of the Explosion

Another device which prevents the wave from traveling past a definite point in the blast pipe is called an explosive valve. It consists of a box set in and forming part of the blast pipe. This box is divided into two compartments by a partition at right

angles to the axis of the blast pipe, and having in it a number of long, narrow, horizontal openings, the spaces between the openings being faced on the side away from the blowers. Flaps made from leather or rubber belting backed with iron to give them weight and stiffness, are fastened by their upper edges on the side of the partition towards the apparatus in the spaces between the openings so that each flap hangs in front of and covers an opening.

A pipe at least as large as the blast pipe leads from the top of the compartment nearest the apparatus to a convenient height above the ground, and its open flanged end is covered with a blind flange made of tin and bolted on by small stove bolts. As long as air is being driven through the pipe the flaps are kept off the partition plate and the air passes through freely, but when an explosion takes place, beginning, as it always does, at the apparatus, the wave traveling back along the pipe throws the flaps against the partition and closes off any communication with the part of the box on the blower side. At the same time the tin flange is blown off the top of the riser pipe and the pressure relieved. Such a valve furnishes an absolute protection against injury to the blowers. It should be located, if possible, just outside the generator house, but can be put inside of this house if necessary.

Various devices are employed to avoid explosions by preventing gas from accumulating in the blast pipe, but these do not come within the scope of the question.

Operation of Water Gas Generator Superheater Set

98. Describe, somewhat in detail, the starting of a fire in, and the heating up to a working heat of a carbureted water-gas apparatus of the generator-superheater type; and the putting on, making and taking off of the first run.

Ans. It is assumed that the apparatus has previously been in use and therefore does not require to be dried out, and also that during the time it has been out of use all necessary repairs have been made, so that all of the valves and piping are in good condition. Just before making the fire the pressure gauges and seals should be filled with water, and water should be started running through the water-cooled valve, if the apparatus is fitted for the reversal of steam. If the condenser is already full of water, no water need to be turned on it, nor need any be turned on the scrubber until the set has been heated up and is ready to make gas. The superheater stack valve should be open, and the upper valve of the steam reversal attachment should also be open.

Starting the Apparatus

A layer of coarse ashes or clinkers from 6 in. to 12 in. deep should be spread over the grate bars to protect them from the overheating and warping that would take place during the long blow if the fire were built directly upon them. (If this is properly and carefully done there will be no danger of the bars becoming overheated, but in any case the bottom door of the generator should be opened after the blast has been on for say fifteen to twenty minutes, and if the fire is found to be too hot on the bars a little steam should be turned on with the blast to cool the lower part of the fire, and so protect the bars from injury.) The stoppers should be placed in the stoke holes and the stoke hole doors closed, the ash-pit doors being left open. If the water-gas apparatus is used in combination with a coal-gas plant the fire can be started by putting into the generator, on top of the lay of clinkers, several barrows of hot coke, followed by a quantity of cold coke, or coal, sufficient to fill the generator half full. If no hot coke is available the fire must be started with wood, enough being used to insure the ignition of the coal or coke, which may either be put on before the wood is lighted, or else put on after the wood fire has gotten well under way. If the first method is employed the coal is put on the wood to a depth of one to two feet, and the wood is ignited from below, the charging lid of the generator being left open until the wood is burning freely, when it is closed, and the products of combustion are drawn through the carbureter and superheater. In this case old oil-soaked waste can be used as a kindling underneath the wood. If the coal is put on after the wood has been lighted no kindling is needed, since the fire can be started by throwing a couple of shovels of hot coal, taken from the boiler fire, on top of the wood. When the wood is burning briskly the coal can be charged to the proper depth and the charging lid closed.

The Blasting or Heating Up Stage

In either case, when the wood has burnt out, leaving the coal well ignited, the generator lid should be opened, a torch being used as in regular running to avoid an explosion, the generator half filled with coal, the lid closed and screwed down, the ash-pit doors closed and sealed up, and the generator blast valve opened, the blower having been previously started. After blasting for a sufficient length of time (say 20 to 30 minutes) to have the coal and upper part of the generator well heated and have the blast gas passing into the carbureter hot, the carbureter blast valve can be opened slightly, using an iron rod with its end heated to a bright red and put through the sight hole to ignite the gas as it meets the air. If the gas is hot enough it will, when once ignited, continue to burn after the rod is withdrawn, and a blue flame will be visible through the sight hole, but if the gas is too cold the flame will go out when the rod is removed, and the blast must be shut off, to be turned on again later and a second attempt at ignition made.

When the carbureter shows a fair heat, as it will in about thirty minutes after the blast has been turned on to it, the superheater blast can be turned on, the ignition of the gas being effected by a rod heated at the end and inserted through the lower sight hole, the presence or absence of a blue flame after the rod is withdrawn indicating, as in the case of the carbureter, whether the blast can be left on or must be turned off until a higher temperature is reached.

(Nineteenth Installment Next Week)

HOW BEST TO PASS INFORMATION CONTAINED IN GAS JOURNALS ON TO THE EMPLOYEES

(Continued from page 410)

the periodical contains articles which are published in a running series. It may be that the individual is very much interested in that series, and naturally if the periodical does not belong to him, he cannot cut or clip anything from it for his own personal use. In a running series of this kind, there is bound to be certain information that is more or less connected with what has gone before, and as the installments progress, problems will be given which can be solved by means of the data which has been presented in former issues. It goes without saying that in order to get the greatest benefit from this material, it is necessary for the reader to have access to the file of the periodicals in which the earlier lessons appeared.

Individual Subscription Plan

"A number of gas companies, recognizing the importance to their employees of having time to digest the material properly, have announced to their personnel that the company is willing to pay one-half the subscription price of any trade paper the employee may select. Those who take advantage of this offer have the subscription entered in their individual name and sent to their home address. This gives the employee a chance to read and digest the various articles, clip those most important to him, and make up his own index for ready reference, which he could not do if he were reading the company copy.

"This plan involves a very small expenditure annually to the company and to the individual and it insures that they read every item of valuable information published throughout the year. It also gives the management a line on the men who want to become better gas men and are studying for advancement in the organization.

"A man may be in the distribution department today and transferred to the manufacturing department tomorrow. If he has read and assimilated the material published in his trade paper, he has not only made himself a more valuable man to the company in his present position, but it has helped to fit him to go to another department and do good work there.

"I think I can safely say for all trade paper publishers that they spend thousands of dollars every year to get together the best and most practical material for the benefit of the men in the industry they serve, and it is their desire to make this material serve as many individuals as possible, knowing they are doing their part not only in making more competent employees, but helping them to gain a knowledge of every phase of their work which in turn paves the way for higher positions in the organization.

"With best wishes for the success of the annual meeting of the Southern Association."

Abstracting the Articles

When I was in the North, I was connected with a company that operated the gas properties in a number of neighboring cities. About twenty of the superintendents, etc., met every two weeks at a central point. The different gas and engineering journals were assigned to different men and each man read his magazine carefully and prepared an abstract and a copy of the abstract was given to each man present. The abstracts of interest were discussed and the others read over by the compiler. In this way every man present got a comprehensive idea of the contents of all of the journals without having to take the time to read them.

The chairman of the "reading class," as we called it, recently expressed himself as follows:

The "Reading Class" Idea

"This subject of dissemination of information among employees, which is a part of education, is, of course, a matter of the highest importance. Unfortunately, as far as review of literature is concerned, the collecting of this information in crystallized form consists in removing the "diluent" from much of this literature; many articles are deliberately padded, while others are encumbered with a lot of detail which, although of value as a corroboration, is not at all necessary to the obtaining of the essential idea, and may even interfere with this.

"The old 'reading class' was really an excellent institution; had it been continued it would undoubtedly have improved and somewhat along the foregoing idea. You will recollect that the various journals were divided up, one journal—or even certain articles in one journal—being assigned to definite parties for reading and summarizing; the careful execution of this relieved all other parties from the necessity of reading any but their own work. I am inclined to think, from my recollection, that we erred in making our reviews somewhat too diffuse; after all, the thing of importance is to present a crystallized hint—this is the thing that strikes one forcibly, and is easily remembered. Furthermore, reviews, if thus brief, can easily be preserved and occasionally scanned as reminders.

"In addition to the information that comes through literature, there is a great amount of merely practical information and practice which will come to the attention of certain members of the staff, and if there is no systematic means of presenting it to the others it is somewhat lost.

Co-operation of the Staff

"This general matter of co-operation on the part of a staff in this educational work is, it would seem, of very great importance. Employees are no longer machines, but enter at once, at least to some extent, into the real management of a concern. They become more valuable to it, and, of course, are themselves dignified and made more secure.

"Incidentally, and as may have occurred to yourself, it seems very important that there should be dissemination of some correct business (economic) ideas. Too many people, especially those of limited

education, have little idea as to the real cost of what they receive, and lack of this idea leads to an unjust degree of discontent. I am aware that much is being done by broadminded parties to correct this condition, but the subject should be continually in the mind of every manager, and be an important element in all of his general educational work."

At the Atlanta works we have a meeting of the superintendent, foremen, cadet engineers, chemist, engineers, etc., every Friday afternoon, and at these meetings we discuss articles in the journals—along with operating results, economy, etc.

In this discussion we must not forget the Bulletin of Abstracts issued by the American Gas Association. This is very valuable in its way, but would hardly be a substitute for general reading among the employees.

How the Journals Themselves Can Help

Now I want to turn to the journals themselves to help us out in this matter.

In addition to the usual index of each copy and the semi-annual index, a cumulative index under various subject heads would be of considerable value. This index would cover all copies up to date from the first of the year—starting again July first.

Another thing, the journals do not try to sell themselves loudly enough. Newspapers have scare heads and newsboys—Gas journals are too modest. The manager of a journal has pride enough in his paper to feel that he could sell it to everyone in an organization from chairman of the board down to the gas maker. Why does he not publish the talking points that appeal to the different officials and employees on a conspicuous page of each copy, stating what articles in that copy would interest the president—the manager—the auditor—the salesman—the superintendent—the gas maker, etc.?

Why could he not publish abstracts of the articles ready to cut out for the card files?

We want to know in the most easy way what is in the journal and we want to be able in the most easy way to find again the articles that interest us.

Well what of it all—Suppose the gas maker does read the journal, will it help him or the company? Most assuredly—any company is benefited by having its employees interested in the business and who become ambitious by reason of a wider knowledge. The employee is fitting himself for a bigger job.

New Public Utility Building Will Be a Real Miniature City

Philadelphia Company's new public service building will be operation headquarters for all the public utilities of Pittsburgh

R. E. Polk

ONE of Pittsburgh's landmarks began to disappear during the past few weeks, when workmen started to raze the old Public Safety building on Sixth avenue and Cherry Way, to make room for the new Public Service building of the Philadelphia Company. A new structure will be erected on the site, which will serve as an addition to the present Philadelphia Company building, the completed structure to accommodate the activities of the Philadelphia Company, Equitable Gas Company, Pittsburgh and West Virginia Gas Company, Duquesne Light Company, Pittsburgh Railways, Allegheny County Steam Heating Company and various other affiliated corporations.

To Cost One Million Dollars

The new building, which will provide an addition to the present structure, which now houses part of the public service activities, will cost approximately $1,000,000. When the combined remodeled and new building is ready for service, which will be May 1, 1925, it will represent a total investment in excess of $3,500,000.

In the rear of the basement an auditorium will be provided for meetings of interest to the employees, for various events of the employees' organizations and gatherings of a similar nature. This auditorium will seat approximately 700 people.

Laboratory to Be Maintained

A laboratory will also be maintained so that all gas and electric appliances which are merchandised through the gas and electric shops may be tested before they are permitted to go on sale. This will insure for the customers of the shops the best and most economical appliances possible to obtain.

Information Bureau

A general information bureau has also been arranged, from which may be had information regarding street locations, local institutions, churches, places of amusement, railroad schedules, information regarding public service and various other items which will be of service to the general community, although not directly related to public service work. At this booth will also be located facilities for the transmission of messages by telegraph with messenger service. A sub-station of

the Pittsburgh post office will also be located in the foyer, as will a number of public telephone stations, the botths to be extra large and lighted from within. Street car checks will also be available for purchase in large quantities here.

The commercial development department of th Philadelphia Company will also be located on the main floor. This department is an institution which has proved of great value to those from in or out of town who are seeking plant locations in the Pittsburgh district. The department has gathered valuable information on industrial sites and a grea mass of other industrial data destined to develo Pittsburgh commercially. While many industria sites are listed, the commercial development department does not act in the capacity of a real estate agent.

Service Facilities on First Floor

The rear of the main floor will be devoted to the direct application of the public service business. A number of tellers will be provided so that those who desire to pay bills for service at the main office may do so without delay. Here also will be located the department of inquiry, wherein any information relative to service or bills may be obtained. A portion of this first floor will be devoted to the department which handles applications and contracts for service, and the credit department will also be located on the main floor.

A number of conveniently located rest rooms will be provided so that should there be any occasion for any one transacting business with the compan having to wait, they may do so in comfort. The Public Service building may also be used by the general public as a convenient place for meeting friends, preparatory to attending functions in the down-town district.

Telegraph Typewriters

A new feature to be introduced in the operation of the companies will be the use of telegraph typewriters. At present it is necessary to keep a number of departments informed when interruptions to service take place or to keep departments informed of routine matters. Instead, as in the past, of making carbon copies, telegraph typewriters will be installed in the various departments interested and the information compiled in one operation. This will be especially useful in long distance work, such as from the West Virginia gas fields, and will save a considerable amount of time.

Radio Broadcasting

Experiences of the past winter with sleet storms and the difficulty of wire communication has resulted in plans being made for the installation of a radio broadcasting station, compressor station, power house and every other strategic point on the companies' systems will be equipped with receiving apparatus so that dependence will not be entirely on wire communication. Because of the fact that all of the employees cannot attend functions at one and the same time, the new auditorium will be directly connected to the broadcasting station and employees' gatherings and entertainments, with speeches made, will be available to all of the employees of the company.

THE WORK OF THE 1924 LEGISLATURE AT ALBANY

The Legislature of New York State, in annual session, adjourned April 10, 1924, will be remembered for having passed a 25 per cent income tax reduction law good for 1924 only, for having enacted a Home Rule Enabling Act for cities made mandatory by constitutional amendment, for the passing of a compromise transit bill affecting transportation in the City of New York, for having committed the state to a policy of the ultimate expenditure of $300,000,000 for grade crossing elimination and $100,000,000 for the construction of new buildings and improvements by the issue of bonds, if constitutional amendments passed at this session are approved at a subsequent legislative session and receive the favorable vote of the people, and for having consistently refused to adopt a system of public utility regulation and plan of municipal operation of as radical a nature as was ever presented to a legislative body in this country.

Gas Laws

All of the measures proposing to tinker with gas rates and manner of service were killed in committee or died in the Assembly.

The Home Rule Enabling Act was finally passed as a new consolidated law, instead of being made a special act. It will give to municipalities a certain degree of regulation over public utilities and the fear that the courts might interpret this power so as to give New York City power to intervene in the transit situation is responsible in no small degree to the final compromise reached in relation to a new transit act for that city.

The Davison bill (Assembly Print No. 2241) adds new section 261-b General Corporation law, by providing preference in payment of judgments recovered in actions for torts against public service corporations shall be given in liquidation of affairs of the corporation.

The Davison bill (Assembly Print No. 2304) amending the tax law, relative to payment and distribution of corporation franchise taxes under Article 9. All revenue from license fees, taxes, etc., imposed by article must be deposited daily with bank or trust company paying highest rate of interest; there are other changes.

The Legislature passed amendments to the Workmen's Compensation Law reducing the non-compensated period after accident from fourteen to seven days, increasing the death benefits for accidental death and increasing the number of payments during the healing period after injury.

Current Market Prices

COALS (By Courtesy of Coal Age)

A. Bituminous.

(Spot prices, F. O. B., mines, net tons).

High Volatile, Eastern	Market	Price
Pool 54-64 (Gas Standard))	New York	$1.40 to $1.65
Pittsburgh screened gas	Pittsburgh	2.30 to 2.50
Pittsburgh gas, mine run	Pittsburgh	2.00 to 2.25
Kanawha lump	Columbus	(*)
Kanawha mine run	Columbus	(*)
West Virginia lump	Cincinnati	2.25 to 2.50
W. Virginia gas mine run	Cincinnati	1.35 to 1.50
Midwest		
Indiana 4th vein lump	Chicago	2.75 to 3.00
Indiana 4th vein mine run	Chicago	2.25 to 2.50
South and Southwest		
Big Seam lump	Birmingham	2.50 to 2.75
Big Seam mine run	Birmingham	1.75 to 2.25
Southeast Kentucky lump	Louisville	2.00 to 2.25
Southeast Kentucky mine run	Louisville	1.25 to 1.75

B. Anthracite.

(Spot prices F. O. B. mines, gross tons),

	Market	Freight rates	Independent	Company
Egg	New York	$2.34	$8.35 to $8.65	$8.25 to $8.65
Egg	Philadelphia	2.39	8.25 to 9.40	8.60 to 8.65
Egg	Chicago (net tons)	5.06	7.59 to 7.81	7.65 to 7.72

COKE (By Courtesy of Iron Trade Review).

Connellsville, furnace	$3.60 to $4.00
Wise County, furnace	4.25 to 5.50
Alabama, furnace	5.00 to 6.00
Foundry, Newark, N. J., del.	10.41
Foundry, Chicago, ovens	12.50
Foundry, Boston, delivered	12.50
Foundry, St. Louis	12.50
Foundry, Granite City, Ill.	12.50
Foundry, Alabama	5.00 to 6.50

PETROLEUM (By Courtesy of Oil, Paint & Drug Reporter)

(Prices at wells, per bbl.)

Pennsylvania—Ohio—West Virginia.	
Cabell, West Virginia	$2.20
Corning, Ohio	2.15
Lima	2.28
Pennsylvania	4.00 to 4.50
Wooster, Ohio	2.15
Indiana—Illinois.	
Illinois	2.07
Indiana	2.08
Oklahoma—Kansas.	
Healdton	.90
Mid-continent (low gravity)	1.25

* No quotation, due to strike.

Gulf Coast.	
Gulf Coast, Grade A	$2.00
Gulf Coast, Grade B	1.70

GAS OILS.

Gas Oil, Bayonne, bulk gal.	5½ to 6½c
Gas Oil (32-36) Illinois-Indiana,	5.50 to 5.75
Gas Oil (32-36) Oklahoma, gal.	3 to 3⅛c
Gas Oil (32-36) Gulf Coast, gal	5 to 5½c

PIPE AND FITTINGS—CAST IRON GAS PIPE.

(By Courtesy Iron Trade Review.)

Four-inch, Chicago	$66.20 to $67.20
Six-inch and over, Chicago	62.20 to 63.20
Four-inch, Birmingham	57.00 to 58.00
Six-inch and over, Birmingham	53.00 to 54.00
Four-inch, New York	70.60 to 71.60
Six-inch and over, New York	65.60 to 66.60
Standard fittings, Birmingham, base	115.00

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20.

BY-PRODUCTS

(By Courtesy of Oil, Paint and Drug Reporter)

Ammonia aqua, 16 deg. drums lb.	5 to 5¼c
Ammonia aqua, 20 deg. drums lb.	6¼ to 6½c
Ammonia aqua, 26 deg. drums lb.	6¾ to 7 c
Ammonia squa, anhydrous cylinder, lb.	30 to 36 c
Ammonium sulphate, bulk F. O. B. Works, per 100 lbs.	$2.70 to $2.75
Potash prussiate, yellow casks, lb.	18 to 19 c
Potash prussiate, red casks, lb.	35 to 37 c
Soda prussiate, yellow casks, lb.	10 to 10¼c
Soda sulphocyanide, barrels, lb.	45 to 55 c

COAL TAR BASIC PRODUCTS.

(By Courtesy of Oil, Paint and Drug Reporter)

Benzol C. P. tanks, works, gal.	25 to 30c
Benzol, drums, gal.	30 to 35c
Benzol, 90% tanks, works, gal.	23 to 28c
Benzol, 90% drums, gal.	28 to 33c
Napthalene, flake, barrels, lb.	5½ to 6c
Napthalene, crushed bags, lb.	5¼ to 5¾c
Solvent Naphtha, water white works, gal.	28c
Solvent Naphtha, drums, works, gal.	33c
Solvent Naptha, Crude Tanks, works, gal.	25c
Solvent Naphtha, drums, works, gal.	30c
Toluene, C. P. tanks, works, gal.	31c
Toluene C. P. drums, works, gal.	36c

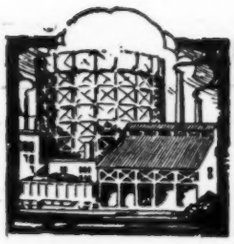
While there has been no pronounced recovery from the monotonous condition of dullness that has been prevalent in the bituminous coal markets, it is probable that the bottom of the valley of depression has been reached.

After a prolonged period of decline, the production of bituminous coal recovered slightly during the week ended April 19, when, according to the Geological Survey, the output totaled 6,945,000 net tons, compared with 6,834,000 tons during the preceding week. Anthracite output was 1,623,000 net tons, a decline of 233,000 tons from the previous week.

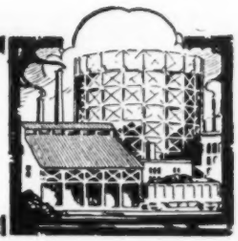
Increasing domestic consumption of gasoline and other petroleum products, coupled with a sharp drop in crude oil production for the week ended April 19, has developed a decidedly bullish sentiment in the market.

Total average daily gross crude oil production is figured by the American Petroleum Institute at 1,932,350 barrels, as compared with 1,953,350 barrels for the preceding week.

Gas oil was meeting with a routine call throughout, the market remaining unchanged at 5½c to 6½c per gallon, bulk Bayonne. Reports from the Illinois-Indiana territory state that industrial buyers are holding off the market in an effort to force a price reduction, but the refiners are unwilling to meet the buyers' views and are curtailing production until the situation clarifies.



NEWS OF THE GAS INDUSTRY



J. H. Grayson Mfg. Co. Granted Rehearing

The J. H. Grayson Manufacturing Co., Athens, Ohio, has been granted a rehearing in the United States District Court, Southern District of Ohio, Eastern Division, before District Judge Sater in the two cases of General Gas Light Company, plaintiff, and the J. H. Grayson Mfg. Company, defendant.

Public Service Co. of Northern Illinois Arranges for Cooking Demonstrations

The retail merchandise sales department of the Public Service Company of Northern Illinois has arranged for a series of practical cooking demonstrations in the territory served under the supervision of Eva Hawkins Shanks, well known domestic science expert. Each demonstration will be preceded by suitable advertising and publicity, including individual invitations to the patrons to attend. Sales plans will be concentrated on pushing ranges and range water heaters.

Gas Company Helps Solve Unemployment Situation

Lawrence, Mass.—An offer to start new construction work which would give employment to approximately seventy-five men was the Lawrence Gas Company's answer to the request made by Mayor Walter T. Rochefort at a City Council meeting to the local public service corporations to assist in relieving the serious local unemployment situation.

In a letter to the Mayor, Agent Fred H. Sargent stated that it was the company's intention to accomplish only the usual service installation program this year, but in view of his honor's request and existing conditions, the company is willing to adopt a much more comprehensive and intensive construction schedule.

Mr. Sargent asked the Mayor to suggest a method whereby the work will be given to the men most actually in need of it.

The letter to the Mayor follows:

"April 1, 1924.

"Hon. Walter T. Rochefort, Mayor of the City of Lawrence, Lawrence Mass.:

"Dear Mayor Rochefort: Your request at Monday's meeting of the City Council that the Lawrence Gas Company assist in relieving the unemployment situation confronting so many of our good citizens is acknowledged.

"We hasten to assure you that the same generous spirit of co-operation for the good of the community that has marked each of the seventy-five years of this company's existence will be evidenced in our desire to work with you and the members of the City Council to the end that relief be extended to the unemployed.

"It was our intention to accomplish only our usual service installations program during the coming summer, but in view of your request and the existing conditions we will abandon that policy and adopt the execution of a much more intensive work schedule.

"As soon as the material can be ordered and delivered into the city and the ground is in a proper workable condition, which will be the latter part of this month, we will open up enough construction work to give employment to approximately seventy-five men.

"We will start the laying of a large amount of gas mains; approximately seven miles can be laid in the system by the above number of men this coming summer and fall. In addition, we will start placing underground electric light conduits on Common street to Haverhill street, and on Essex street to Broadway; on Broadway from Broadway to Winter street.

"We would appreciate an expression from you as to the best method of selection for the persons to be employed, so that the most worthy cases can have the preference in the order of their real need.

"Again assuring you of our desire to co-operate in any movement that advances the good of the city, we are,

"Very cordially yours,

"LAWRENCE GAS CO.,

"By Fred H. Sargent."

Control of Laclede Gas Co., St. Louis, Passes to Charles A. Munroe and Associates of Chicago, Ill.

Charles A. Munroe, vice-president of Peoples Gas Light & Coke Company, Chicago, Ill., and his associates have purchased the majority of the common stock of the Laclede Gas Light Company of St. Louis, Mo.

Laclede Gas Co. Valuation Put at $31,000,000

Jefferson City, Mo.—In a report filed by the accounting department of the Public Service Commission, the book value of properties owned by the Laclede Gas Light Company of St. Louis was fixed at $30,733,736.82.

The listed valuation made by the company fixed the valuation at $41,070,473.50. The survey made by the state accountants, headed by T. J. Murphy, chief of the department, deducted $10,333,736.68 from the valuation.

Two items deducted as not being properly charged to plant accounts of the corporation included $5,475,000 of common stock issued to H. B. Hollis & Co. in 1889, and $3,491,461 of first mortgage gold bonds issued to stockholders of the Laclede Company in 1889.

A survey of the properties of the corporation being made by engineers of the Public Service Commission is not yet completed. The findings of the experts of the two departments will be considered as the basis for fixing rates charged by the company.

Southern Association Holds Most Successful Meeting

Gas Men From Dixie Gather at Augusta—Atlantan Chosen President

Wm. H. Matlack

The Southern Gas Association held one of the biggest and most successful meetings in its history. The meeting, which opened at Augusta, Georgia's winter hotel, the "Bon Air-Vanderbilt," was staged in a big way and each and every detail looking to the success of the meeting and to the entertainment of the delegates was carried out according to a prearranged schedule, under the guidance of Secretary Edw. D. Brewer and F. L. Marshall, chairman of the entertainment committee.

The registration booth was opened on Monday, and when it was closed on Wednesday, 181 delegates had registered. For the first time in the history of the association gas men exceeded other registrants. Thirty new members were elected.

The convention was called to order by President Edw. L. Rieha, at 10 o'clock Tuesday morning, after which Rev. Dr. Joseph R. Sevier, of Augusta, delivered the invocation. Mayor Julian M. Smith, on behalf of the citizens of Augusta, welcomed the gas men and their lady guests to the city, and L. Irving Pollitt, past president of the association, replied.

The report of the committee on the Gas Engineering Chair to be founded at Johns Hopkins University, was then heard. Col. Oscar H. Fogg, of Baltimore, past secretary-manager of the American Gas Association, and Major Alexander Forward, the present secretary-manager making short talks.

The first paper to be read and discussed at Tuesday's meeting was that of L. Irving Pollitt, president of the Southern Gas & Electric Corporation, Baltimore, the subject of the paper being, "How to Get the Greatest Benefit From An Association Meeting."

Barbecue at the Augusta Rotary Club

After the business session Tuesday morning the delegates were conducted to Carmichael's Club, by members of the Augusta Rotary Club, where they were treated to one of the Southern "Qs" for which this club is famous. Pork, lamb, beef hash and chicken with all the necessary trimmings a-plenty were served each guest, while a Georgia negro jazz band furnished music and the spirit of Rotary prevailed. Judge A. L. Franklin, of Augusta, was the principal speaker.

After the barbecue the delegates were driven about the city for an hour. Tuesday evening was given over to an informal dance at the "Bon Air-Vanderbilt" hotel.

The Place of the Public Utility Employee

Wednesday's session was opened with a speech by Preston S. Arkwright, president of the Georgia Railway and Power Company, Atlanta. Mr. Arkwright spoke from a past experience of many years' duration and took for his subject, "The Public Utility Employee's Place in the Activities of His Community." Mr. Arkwright went right to the bat and delivered one of the best and most interesting addresses ever delivered at a gas convention—one that every gas man may read and re-read with profit and pass on for the good of the industry. Other papers read during the session were: "The Doherty Plan of Compensation for Salesmen in Gas Companies," by E. J. McGlinchey, manager New Business Department, Knoxville Gas Co., Knoxville, Tenn.

Wednesday morning the ladies in attendance at the convention were entertained at a bridge and Mah Jong party at Berkman's, a country inn near the city. Mrs. Fielding Lewis Marshall, hostess, assisted by Mrs. L. Irving Pollitt, Jr., and Miss Ceplele Lewis, of Augusta.

Wednesday afternoon both ladies and gentlemen were entertained at an informal reception and golf tournament at the Augusta Country Club.

The annual banquet was held at the "Bon Air-Vanderbilt" Wednesday evening, where the speaker of the evening, Judge H. C. Hammond, delivered an interesting and

amusing address which was replied to by Col. Ed. Dicky, of Baltimore.

Chair of Gas Engineering at Johns Hopkins

Thursday was the banner day at the convention, the outstanding feature being the final support given the committee appointed to raise funds for the establishment of a gas engineering chair at Johns Hopkins University. After several years' struggle the amounts necessary to found this chair were obtained. This action means another step forward by the industry and that the Southern Gas Association has succeeded in establishing the first chair of gas engineering on the Western Continent, the fourth in the world. The other three being: one in Germany and two in Great Britain.

Upon motion by F. L. Marshall the association created a junior membership class in order to bring the younger men into the association.

Distinctive Delegates' Badge a Feature

This badge is different from the ordinary badge used.

It represents the trip of the first bale of cotton by airplane in the history of the world.

Early one morning this airplane shown in the picture on the badge, left Augusta, Ga., with the bale of cotton which was carried to a cotton mill in New England, made into cloth and delivered in Washington, D. C., the next afternoon in the form of aprons to be used by the Masons there assembled.

High cotton represents an optimistic South, and on this trip cotton went the highest in the history of the cotton grower.

New Officers

The following officers were elected to serve during 1924-25:

Wm. H. Taylor, Atlanta, Ga., president; Samuel E. Linton, Nashville, Tenn., 1st vice-president; Oscar H. Fogg, Baltimore, Md., 2nd vice-president; J. P. Connolly, Charleston, S. C., secretary-treasurer. Directors: Edw. L. Rieha, Baltimore; Edw. D. Brewer, Atlanta; J. H. Hagerty, Valdosta, Ga.; F. L. Marshall, Augusta, Ga.

The time and place committee selected Wilmington (Wrightsville Beach), North Carolina, as the next meeting place.

The Augusta press and Board of Commerce were most liberal in the support of the convention and a resolution of thanks was voted them before the session closed.

Diamond Alkali Company to Start Making Gas

Jefferson, Ohio—According to a recent announcement from the Diamond Alkali Company, Fairport, that company started making artificial gas about April 10, and shortly after that date it is anticipated Ashtabula county will have an adequate supply of gas for all purposes. The coke ovens at the Alkali plant are now being dried out, it is stated, and it is expected they will be ready for actual operations on the date mentioned.

Ashtabula, of course, will be the first community in the county to get the artificial product, but as soon as the new fuel is turned on there it is anticipated the entire supply of natural gas will be diverted into the North Eastern's mains, which should insure Conneaut consumers and others in the county immediately enjoying a fair supply of the natural product inasmuch as Ashtabula has nearly as many meters as the rest of the county together.

Actual gas making started April 10, but the oven will probably not be up to full capacity before the middle or last of the month.

J. G. White Management Corp. Takes Over Radiant Heat Corp. of America

The J. G. White Management Corporation of New York, announces that they have taken over the entire management of the Radiant Heat Corporation of America, and gives assurance to the gas industry that the manufacturing and sales policy of that company will be administered in a progressive and efficient manner, that will assure the maximum service and satisfaction to any gas company who handles Kennedy Radiant Heaters.

This move not only insures the fullest measure of financial resources, but a wide experience in industrial management that will enable the company to adopt a progressive sales policy, and efficient manufacturing policy, and a thoroughness of trade co-operation that will insure the most satisfactory relations with distributors and dealers throughout the United States.

Already manufacturing plans have been expedited to the point where prompt delivery is assured.

Gas Co. to Reduce Rates

The Concord Gas Company has filed with the Public Service Commission a reduction in rates and announced a new special rate for house heating effective July 1. The reduction means a considerable saving to all users of gas with the exception of those having prepayment meters.

Customers on regular meters earn a saving when they reach a consumption of 50,000 cubic feet or over per month under the new sliding scale rate. The second 50,000 cubic feet rate is 10 cents net per 100 cubic feet. Customers using an additional 150,000 cubic feet earn a net rate of 9 cents. Those using over 250,000 cubic feet earn a net rate of 8½ cents.

The new house heating rate anticipates the further substitution of gas burners for coal, wood and coke consuming heating plants, because of the high prices prevailing among the latter fuels. At present there are seven heating plants in operation in Concord blocks and homes. From a study of these plants the gas company has arrived at the rates to be charged for gas as a heat producer. The tables follow:

First 100 CF.....Net	$2.00
Next 2,900 CF per M....Net	1.00
Over 3,000 CF per M....Net	.85

The minimum monthly bill for seven months, October 1 to May 1, $21.50.

Largest Dust Catcher to Be Installed

Philadelphia, Pa.—The Gellert-Cottrell electrical cleaning plant which the Colorado Fuel & Iron Company will install to clean the fumes and dust from its blast furnace gases will be the largest plant of its kind that has yet been installed for this work either in America or Europe.

Long period testing on a standard size unit was conducted by the Colorado company at its own plant before it was decided to install the cleaners. The tests show that the gas could be cleaned to such an extent that only 0.11 grains of dust per cubic foot were left in the outgoing gas.

The demonstration plant attracted great interest in the blast furnace industry and was visited by many eastern engineers in the past four months.

Specially designed automatic mechanisms will make this one of the most up-to-date dust precipitation plants that has ever been built.

The Gellert Engineering Company, which developed the electrical precipitation process for the blast furnace gas application, and which has built the other electrical blast furnace gas cleaning plants in this country, will design the Colorado gas cleaning plant.

Customers and Friends for Many Years

There has been considerable interest aroused in Chicago by the Peoples Gas, Light & Coke Company inquiry as to who has burned gas longest in one location in that city.

The record appears to stand as follows, according to the gas gazette:

Mrs. H. P. Dunwell, 1907 W. Monroe street, 55 years.

J. B. Thielen, Rush and Oak streets, 54 years.

Mrs. Mary Forsyth, 1805 W. Adams street, 52 years.

Mrs. R. W. Bridge, 5402 Cornell avenue, 51 years.

Mrs. E. N. Graft, 552 S. Campbell avenue, 50 years.

Mrs. Julia M. Muckridge, 2608 Adams street, 48 years.

Mr. Otto W. Milling, 18 E. Chicago avenue, 48 years.

Mrs. G. W. Macauley, 2007 Washington boulevard, 45 years.

Charles L. Kling & Son, 695 Milwaukee avenue, 44 years.

Mrs. Mary C. Lull, 878 N. Clark street, 43 years.

Mr. G. A. Satterlee, 2704 Michigan avenue, 43 years.

Mr. M. Earnshaw, 149 E. Ontario street, 42 years.

Mr. Luther M. Tracey, 6726 Wentworth avenue, 38 years.

Mrs. Franzen, 1726 Hudson avenue, 36 years.

Mr. J. E. Downs, 610 S. Ashland avenue, 36 years.

Mrs. Mary Cupler, 5450 Dorchester avenue, 28 years.

Some Refund

In connection with the above an an interesting fact was brought out. A refund with interest on a deposit of $10 was recently made to E. Amon, 629 Fullerton avenue, by the Peoples Gas Company. The receipt showed that the money had been in deposit with the gas company for 51 years, 6 months and 18 days. The interest, at 5 per cent per annum, amounted to $25.78—two and a half times the face value of the receipt.

Gas Co. Announces Extensive Construction Operations

The Public Service Company of Northern Illinois announces that its construction operations for 1924 are to be on an extensive scale and will include every section of the territory served. The gas generating station at Niles, Ill., just outside the Chicago limits, will increase its capacity, new feeder mains being included in the plans to reach to Wheeling. A high pressure gas main is to be installed from Clearing to the center of distribution in the Oak Park-Cicero territory. Additional boiler equipment will be provided in the Kankakee gas generating station. Equipment will also be added to the Ottawa station and numerous gas main extensions are planned there. A peculiar feature of the system northwest of Chicago is that the towns through which the company is planning some of its extensions are greater users of gas during the summer time than during the winter. This is because auto travel goes through these suburbs, which lie near the resort restaurant and small lake district. It is expected, however, that the new 10-inch welded main extending northward through Park Ridge will take care of this excess summer demand; if not, an auxiliary plant erected at Barrington several years ago will be placed in operation. In connection with the added capacity at the Niles station, the company is considering adding another boiler to be run on waste heat from the gas making machines.

Los Angeles Gas Co. Plans New Works

Los Angeles, Cal.—Plans for the development of a huge gas plant upon the $700,000 site purchased recently by the Los Angeles Gas & Electric Company are being made by utilities engineers.

Climaxing a series of important deals for industrial sites, the announcement of the transaction, in the opinion of business men and others, marks the beginning of an industrial boom in Los Angeles.